INSTALLATION & USER MANUAL

Mini Auto Tracking / High Speed PTZ Camera

Thank You for Choosing Our PTZ Camera!

When you open the box:

- ☑ Check that the packing and the contents are not visibly damaged. Contact the retailer immediately if any parts are either missing or damaged.
- ☑ Make sure if the contents are all included as per the packing list.
- ☑ Do not attempt to use the device with missing or damaged parts. Send the product back in its original packing if it is damaged.

🕮 ***The information contained in the document is subject to change without notice.***

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1. SAFETY NOTES --- IMPORTANT!!!

The following important notes must be followed carefully to run the PTZ camera and respective accessories in total safety. The camera and relative accessories are called *video system* in this section.

Use the instructions correctly and fully
Read all safety rules and instructions carefully before starting to run the video system.

Follow the instructions in the instruction manual. Pay attention to all warnings on the camera and in the instruction manual. Keep the safety notes and instructions for future reference.

Attachments & Accessories
Do not use attachments other than those recommended in the instruction manual because this could cause risks to the products. Only use the recommended accessories for the camera for installation and operation.

Protect the video system
To protect the camera, avoid installing and using it in direct sunlight or any source of bright light. Bright light, like that from a spotlight, can cause dimming and blurs. A vertical line may appear on the screen. This does not indicate a problem.

Keep it away from rain and dust. Do not touch the zoom lens with your fingers. If needed, use a soft cloth and methylated spirit to remove traces of dust. Apply a specific cap to protect the zoom lens when the camera is not in use.

Install the camera away from video interference. The pictures could present interference if the leads are arranged near a TV set or other device. Either move the leads or re-install the device to solve the problem.

Do not use any part of the video system near water, i.e. bathtubs, wash basins, sinks, tubs, on damp surfaces, near swimming pools, etc. Do not insert objects of any kind through the camera openings to avoid touch live parts: fire and electrocution risk. Do not pour any kind of liquid on the device.

A switch for performing maintenance operations on the camera must be included. Connect the camera only to the electrical power supply shown on the ratings plate. Contact your retailer if in doubt.

Lay the power wires keeping them from being trodden on or squeezed by objects placed on top of them. Pay particular attention to leads near plugs, screws and the product outlet.

Disconnect the power lead and the wiring to protect the camera during electrical storms or when it is left unattended and not used for a long time. This will prevent damage to the video system in the event of lightening or electrical line overload.

Do not overload the electrical power and the extensions to prevent the risk of fire or electrocution.

Do not place the camera near or over radiators or sources of heat. Check that the area is suitably ventilated before installing the camera inside partially closed areas (such as recesses, bookshelves and shelves).

Do not position the camera on unsteady trolleys, stands, brackets or tables. The camera could fall and severely injury adults and children in addition to seriously damaging the product.

Maintenance & Repairs
Always contact a qualified service technician to repair the camera (or any other part of the video system). Unauthorized opening or removing the lids may cause fire and electrocution risk and other dangers.

Disconnect all electrical parts from the mains before cleaning.

Uses spare parts specified by the manufacturer or spare parts with equivalent characteristics when replacements required. Unauthorized replacements can cause fires, electrical shocks and other dangers.

After any servicing intervention or repair to the video system, ask the technician to run a safety check to ensure that everything is working safely.

Damage requiring professional assistance
Disconnect the video system from the power mains and call qualified service personnel in the following cases:

- ☑ If the power lead or plug is damaged.
- ☑ If liquid or foreign objects accidentally penetrate inside the device.
- ☑ If the device was exposed to rain or water.
- ☑ If the device was dropped, subjected to heavy shocks or if the camera packaging was damaged.
- ☑ If the device performance changes considerably.

2. ABOUT THE PRODUCT

The tracking PTZ is based on our unique motion tracking technology with high position resolution, high speed, low price and selectable communication protocols. It is widely used in surveillance system as unattended CCTV device.

2.1. FEATURES

- ☑ Auto tracking of moving object (auto PTZ) based on our motion tracking technology;
- ☑ Max 10X optical, 10X digital zoom, day/night;
- ☑ 360º horizontal rotation at maximum speed of 360º /sec;
- ☑ Auto panning function with 256 preset positions;
- ☑ Built-in OSD Menu, to change dome parameter, save or call preset, and achieve auto scan, pattern etc;
- ☑ The feature of defining specific activity when the dome parks;
- ☑ Auto-flip to follow object and surveillance of any subject that is constant and continuous;
- ☑ The speed can be adjusted automatically according to zooming times;
- ☑ Auto focus lens and auto white balance, BLC function;
- ☑ Multi protocol compatible (Pelco-P, Pelco-D etc);
- ☑ Alarm input, Alarm output, Alarm action.

2.2. FUNCTIONS

Object Tracking
In auto tracking mode, the camera can track a moving object in the target area with auto pan, tilt and zoom which realizes smart unattended surveillance.

Tracking Cruise
The tracking function can be activated during cruise. At a preset of the cruise list, the camera can track moving objects automatically. After the moving object moves out of view, the camera will go back to cruising mode again.

Soft Address
The camera address can be programmed with built-in OSD menu, and the user does not need to dismount the camera from field or do any screw work.

Day/Night Function
The IR cut filter of camera module inside the camera can be removed by sending special command, so that the camera can change from color to mono. The picture is clear even if the illumination is as low as 0.01Lux.

Proportional Pan
Proportional pan automatically reduces or increases the pan and tilt speeds in proportion to the zooming times. At telephoto zoom settings, the pan and tilt speeds will be slower for a given amount of joystick deflection then at wide zoom settings. This keeps the image from moving too fast on the monitor when there is a large amount of zoom.

Auto Flip
When the camera tilts downward and goes just beyond the vertical angle, the camera rotates 180º. When the camera rotates (flips), the camera starts moving upward as you continue to hold joystick in the down position. Once you let go of the joystick after the dome rotates, joystick control returns to normal operation. The auto-flip feature is useful for following a person who passes directly beneath the camera.

Save/Call Preset
Preset function is that dome saves current horizontal angle and title angle of pan/tilt, zoom and position parameters into memory. When necessary dome calls these parameters and adjusts Pan/Tilt and camera to that position. User can save and call presets easily and promptly by using keyboard controller or other controllers. The camera supports up to 256 presets.

Lens Control
1) Zoom control
User can adjust zoom wide or tele by controller to get desired image.

2) Focus control
System defaults Auto Focus mode, that is, the lens and camera will automatically adjust the focus to get the best image.

Focus can also be controlled manually from the controller if required. Press Focus Near or Focus Far key to manually focus. Focus can be manual via keyboard or matrix, please refer to control keyboard or matrix operation manual for detailed operation. When adjusting position is set with focus status, it goes back to auto focus.

The camera will NOT auto focus in the following status.

- ☑ Target is not in the center of image.
- ☑ Targets are in near and far at the same time.
- ☑ Target is of strong light object. Such as spotlight etc.
- ☑ Target is behind the glass with water drop or dust.
- ☑ Target moves too fast.
- ☑ Large area target such as wall.
- ☑ Target is too dark or vague.

3) IRIS control

System defaults Auto IRIS. Camera can adjust immediately according to the alteration of back ground illumination so that a lightness steady image can be achieved.

You may adjust IRIS by controller to get required image brightness, and get back Auto IRIS by controlling the joystick.

Auto White Balance

Camera can automatically adjust white balance (WB) according to the alteration of background lightness to give a true color image.

Back Light Compensation (BLC)

If a bright backlight presents, the subjects in the picture may appear dark or as a silhouette. Backlight compensation enhances objects in the center of the picture. The camera uses the center of the picture to adjust the IRIS. If there is a bright light source outside this area, it will wash out to white. The camera will adjust the IRIS so that the object in the sensitive area is properly exposed.

Auto Cruise

The preset position is programmed to be recalled in sequence. This feature is called auto cruise. Up to 20 presets can be saved in each cruise tour.

Patterns

A pattern is a saved, repeating, series of pan, tilt, zoom and preset functions that can be recalled with a command from a controller or automatically by a programmed function (alarm action or park action or power-up action).

Auto, Random and Frame Scan

Auto Scan: Make the camera scan 360º ranging from the current position.
Random Scan: Make the camera random scan 360º ranging from the current position.
Frame Scan: This feature freezes the scene on the monitor when going to a preset. This allows for smooth transition from one preset scene to another.

Zones Setting

A zone is a pan area, defined by a left and right limit, on the 360º pan plane. The camera has eight zones, each with a 6-character label.

2.3. TECHNICAL PARAMETERS

Function	Object auto tracking
Signal Format	PAL/NTSC
Image Sensor	¼ inch color CCD
H. Resolution	570 TVL (Black), 500 TVL (Color)
Zoom	10X optical; 10X digital
Day/Night	Yes
Sensitivity	0.7Lux (Color) / 0.02Lux (Black)
S/N Ratio	≥50DB (AGC off)
AGC	Auto/Manual
BLC	Auto/Manual
WB	Auto/Manual
P/T Range	PAN:360º continuous; TILT: 90º auto flip
P/T Speed	PAN:0.05º～240º/sec;TILT:0.03º～160º/sec
Presets	256

Pattern Scan	4 routes of pattern scan
Auto Cruise	Auto switch from 1 – 20 preset positions sequentially
Comm. Port	RS485
Protocols	PELCO-D, PELCO-P
OSD Menu	English
Power	DC12V
Working Temperature	0ºC ~ 40ºC

Table 1: Technical Data

🕮 ***The specifications are subject to change without notice.***

3. INSTALLATION

This section contains detailed instructions for installing the camera. These instructions assume that the installer has a good knowledge of installation techniques and is capable of adopting safe installation methods.

3.1. DIP SWITCH SETTING

Before installing the camera drive, check the DIP switches on the main PCB board; configure the receiver address, communication protocol, and baud rate setting. The default settings are:receiver address is “1”,communication protocol is “PELCO-D”, baud rate is “9600”.**错误！未找到引用源。** shows the default settings for the DIP switches.

Pic.1 Default settings of DIP switches

Please refer to the following tables to set baud rate, and communication protocol type and camera address.

POS	**1**	**2**	**DESCRIPTION**	
COMM PTOL	OFF	OFF	PELCO-P	
	ON	OFF	PELCO-D	
	……		Reserved for future use	
POS	**DESCRIPTION**		**3**	**4**
BAUD RATE (BPS)	2400		ON	OFF
	4800		OFF	ON
	9600		ON	ON
	Reserved for future use		…	

Table 2: SWITCH1 SETTING

Address	1	2	3	4	5	6	7	8
0	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
6	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
7	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
8	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
9	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
10	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF
11	ON	ON	OFF	ON	OFF	OFF	OFF	OFF
12	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF
13	ON	OFF	ON	ON	OFF	OFF	OFF	OFF
14	OFF	ON	ON	ON	OFF	OFF	OFF	OFF
15	ON	ON	ON	ON	OFF	OFF	OFF	OFF
16	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
17	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
18	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF
19	ON	ON	OFF	OFF	ON	OFF	OFF	OFF
20	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF
21	ON	OFF	ON	OFF	ON	OFF	OFF	OFF
22	OFF	ON	ON	OFF	ON	OFF	OFF	OFF
23	ON	ON	ON	OFF	ON	OFF	OFF	OFF
24	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF
25	ON	OFF	OFF	ON	ON	OFF	OFF	OFF
26	OFF	ON	OFF	ON	ON	OFF	OFF	OFF
27	ON	ON	OFF	ON	ON	OFF	OFF	OFF
28	OFF	OFF	ON	ON	ON	OFF	OFF	OFF
29	ON	OFF	ON	ON	ON	OFF	OFF	OFF
30	OFF	ON	ON	ON	ON	OFF	OFF	OFF
31	ON	ON	ON	ON	ON	OFF	OFF	OFF
32	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF
33	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF
34	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
35	ON	ON	OFF	OFF	OFF	ON	OFF	OFF
36	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF
37	ON	OFF	ON	OFF	OFF	ON	OFF	OFF
38	OFF	ON	ON	OFF	OFF	ON	OFF	OFF
39	ON	ON	ON	OFF	OFF	ON	OFF	OFF
40	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF
41	ON	OFF	OFF	ON	OFF	ON	OFF	OFF
42	OFF	ON	OFF	ON	OFF	ON	OFF	OFF
43	ON	ON	OFF	ON	OFF	ON	OFF	OFF
44	OFF	OFF	ON	ON	OFF	ON	OFF	OFF
45	ON	OFF	ON	ON	OFF	ON	OFF	OFF
46	OFF	ON	ON	ON	OFF	ON	OFF	OFF
47	ON	ON	ON	ON	OFF	ON	OFF	OFF
48	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF
49	ON	OFF	OFF	OFF	ON	ON	OFF	OFF

50	OFF	ON	OFF	OFF	ON	ON	OFF	OFF
51	ON	ON	OFF	OFF	ON	ON	OFF	OFF
52	OFF	OFF	ON	OFF	ON	ON	OFF	OFF
53	ON	OFF	ON	OFF	ON	ON	OFF	OFF
54	OFF	ON	ON	OFF	ON	ON	OFF	OFF
55	ON	ON	ON	OFF	ON	ON	OFF	OFF
56	OFF	OFF	OFF	ON	ON	ON	OFF	OFF
57	ON	OFF	OFF	ON	ON	ON	OFF	OFF
58	OFF	ON	OFF	ON	ON	ON	OFF	OFF
59	ON	ON	OFF	ON	ON	ON	OFF	OFF
60	OFF	OFF	ON	ON	ON	ON	OFF	OFF
61	ON	OFF	ON	ON	ON	ON	OFF	OFF
62	OFF	ON	ON	ON	ON	ON	OFF	OFF
63	ON	ON	ON	ON	ON	ON	OFF	OFF
64	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
65	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF
66	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF
67	ON	ON	OFF	OFF	OFF	OFF	ON	OFF
68	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF
69	ON	OFF	ON	OFF	OFF	OFF	ON	OFF
70	OFF	ON	ON	OFF	OFF	OFF	ON	OFF
71	ON	ON	ON	OFF	OFF	OFF	ON	OFF
72	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF
73	ON	OFF	OFF	ON	OFF	OFF	ON	OFF
74	OFF	ON	OFF	ON	OFF	OFF	ON	OFF
75	ON	ON	OFF	ON	OFF	OFF	ON	OFF
76	OFF	OFF	ON	ON	OFF	OFF	ON	OFF
77	ON	OFF	ON	ON	OFF	OFF	ON	OFF
78	OFF	ON	ON	ON	OFF	OFF	ON	OFF
79	ON	ON	ON	ON	OFF	OFF	ON	OFF
80	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF
81	ON	OFF	OFF	OFF	ON	OFF	ON	OFF
82	OFF	ON	OFF	OFF	ON	OFF	ON	OFF
83	ON	ON	OFF	OFF	ON	OFF	ON	OFF
84	OFF	OFF	ON	OFF	ON	OFF	ON	OFF
85	ON	OFF	ON	OFF	ON	OFF	ON	OFF
86	OFF	ON	ON	OFF	ON	OFF	ON	OFF
87	ON	ON	ON	OFF	ON	OFF	ON	OFF
88	OFF	OFF	OFF	ON	ON	OFF	ON	OFF
89	ON	OFF	OFF	ON	ON	OFF	ON	OFF
90	OFF	ON	OFF	ON	ON	OFF	ON	OFF
91	ON	ON	OFF	ON	ON	OFF	ON	OFF
92	OFF	OFF	ON	ON	ON	OFF	ON	OFF
93	ON	OFF	ON	ON	ON	OFF	ON	OFF
94	OFF	ON	ON	ON	ON	OFF	ON	OFF
95	ON	ON	ON	ON	ON	OFF	ON	OFF
96	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF
97	ON	OFF	OFF	OFF	OFF	ON	ON	OFF
98	OFF	ON	OFF	OFF	OFF	ON	ON	OFF
99	ON	ON	OFF	OFF	OFF	ON	ON	OFF
100	OFF	OFF	ON	OFF	OFF	ON	ON	OFF

101	ON	OFF	ON	OFF	OFF	ON	ON	OFF
102	OFF	ON	ON	OFF	OFF	ON	ON	OFF
103	ON	ON	ON	OFF	OFF	ON	ON	OFF
104	OFF	OFF	OFF	ON	OFF	ON	ON	OFF
105	ON	OFF	OFF	ON	OFF	ON	ON	OFF
106	OFF	ON	OFF	ON	OFF	ON	ON	OFF
107	ON	ON	OFF	ON	OFF	ON	ON	OFF
108	OFF	OFF	ON	ON	OFF	ON	ON	OFF
109	ON	OFF	ON	ON	OFF	ON	ON	OFF
110	OFF	ON	ON	ON	OFF	ON	ON	OFF
111	ON	ON	ON	ON	OFF	ON	ON	OFF
112	OFF	OFF	OFF	OFF	ON	ON	ON	OFF
113	ON	OFF	OFF	OFF	ON	ON	ON	OFF
114	OFF	ON	OFF	OFF	ON	ON	ON	OFF
115	ON	ON	OFF	OFF	ON	ON	ON	OFF
116	OFF	OFF	ON	OFF	ON	ON	ON	OFF
117	ON	OFF	ON	OFF	ON	ON	ON	OFF
118	OFF	ON	ON	OFF	ON	ON	ON	OFF
119	ON	ON	ON	OFF	ON	ON	ON	OFF
120	OFF	OFF	OFF	ON	ON	ON	ON	OFF
121	ON	OFF	OFF	ON	ON	ON	ON	OFF
122	OFF	ON	OFF	ON	ON	ON	ON	OFF
123	ON	ON	OFF	ON	ON	ON	ON	OFF
124	OFF	OFF	ON	ON	ON	ON	ON	OFF
125	ON	OFF	ON	ON	ON	ON	ON	OFF
126	OFF	ON	ON	ON	ON	ON	ON	OFF
127	ON	ON	ON	ON	ON	ON	ON	OFF
128	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON
129	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON
130	OFF	ON	OFF	OFF	OFF	OFF	OFF	ON
131	ON	ON	OFF	OFF	OFF	OFF	OFF	ON
132	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON
133	ON	OFF	ON	OFF	OFF	OFF	OFF	ON
134	OFF	ON	ON	OFF	OFF	OFF	OFF	ON
135	ON	ON	ON	OFF	OFF	OFF	OFF	ON
136	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON
137	ON	OFF	OFF	ON	OFF	OFF	OFF	ON
138	OFF	ON	OFF	ON	OFF	OFF	OFF	ON
139	ON	ON	OFF	ON	OFF	OFF	OFF	ON
140	OFF	OFF	ON	ON	OFF	OFF	OFF	ON
141	ON	OFF	ON	ON	OFF	OFF	OFF	ON
142	OFF	ON	ON	ON	OFF	OFF	OFF	ON
143	ON	ON	ON	ON	OFF	OFF	OFF	ON
144	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON
145	ON	OFF	OFF	OFF	ON	OFF	OFF	ON
146	OFF	ON	OFF	OFF	ON	OFF	OFF	ON
147	ON	ON	OFF	OFF	ON	OFF	OFF	ON
148	OFF	OFF	ON	OFF	ON	OFF	OFF	ON
149	ON	OFF	ON	OFF	ON	OFF	OFF	ON
150	OFF	ON	ON	OFF	ON	OFF	OFF	ON
151	ON	ON	ON	OFF	ON	OFF	OFF	ON

152	OFF	OFF	OFF	ON	ON	OFF	OFF	ON
153	ON	OFF	OFF	ON	ON	OFF	OFF	ON
154	OFF	ON	OFF	ON	ON	OFF	OFF	ON
155	ON	ON	OFF	ON	ON	OFF	OFF	ON
156	OFF	OFF	ON	ON	ON	OFF	OFF	ON
157	ON	OFF	ON	ON	ON	OFF	OFF	ON
158	OFF	ON	ON	ON	ON	OFF	OFF	ON
159	ON	ON	ON	ON	ON	OFF	OFF	ON
160	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON
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162	OFF	ON	OFF	OFF	OFF	ON	OFF	ON
163	ON	ON	OFF	OFF	OFF	ON	OFF	ON
164	OFF	OFF	ON	OFF	OFF	ON	OFF	ON
165	ON	OFF	ON	OFF	OFF	ON	OFF	ON
166	OFF	ON	ON	OFF	OFF	ON	OFF	ON
167	ON	ON	ON	OFF	OFF	ON	OFF	ON
168	OFF	OFF	OFF	ON	OFF	ON	OFF	ON
169	ON	OFF	OFF	ON	OFF	ON	OFF	ON
170	OFF	ON	OFF	ON	OFF	ON	OFF	ON
171	ON	ON	OFF	ON	OFF	ON	OFF	ON
172	OFF	OFF	ON	ON	OFF	ON	OFF	ON
173	ON	OFF	ON	ON	OFF	ON	OFF	ON
174	OFF	ON	ON	ON	OFF	ON	OFF	ON
175	ON	ON	ON	ON	OFF	ON	OFF	ON
176	OFF	OFF	OFF	OFF	ON	ON	OFF	ON
177	ON	OFF	OFF	OFF	ON	ON	OFF	ON
178	OFF	ON	OFF	OFF	ON	ON	OFF	ON
179	ON	ON	OFF	OFF	ON	ON	OFF	ON
180	OFF	OFF	ON	OFF	ON	ON	OFF	ON
181	ON	OFF	ON	OFF	ON	ON	OFF	ON
182	OFF	ON	ON	OFF	ON	ON	OFF	ON
183	ON	ON	ON	OFF	ON	ON	OFF	ON
184	OFF	OFF	OFF	ON	ON	ON	OFF	ON
185	ON	OFF	OFF	ON	ON	ON	OFF	ON
186	OFF	ON	OFF	ON	ON	ON	OFF	ON
187	ON	ON	OFF	ON	ON	ON	OFF	ON
188	OFF	OFF	ON	ON	ON	ON	OFF	ON
189	ON	OFF	ON	ON	ON	ON	OFF	ON
190	OFF	ON	ON	ON	ON	ON	OFF	ON
191	ON	ON	ON	ON	ON	ON	OFF	ON
192	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON
193	ON	OFF	OFF	OFF	OFF	OFF	ON	ON
194	OFF	ON	OFF	OFF	OFF	OFF	ON	ON
195	ON	ON	OFF	OFF	OFF	OFF	ON	ON
196	OFF	OFF	ON	OFF	OFF	OFF	ON	ON
197	ON	OFF	ON	OFF	OFF	OFF	ON	ON
198	OFF	ON	ON	OFF	OFF	OFF	ON	ON
199	ON	ON	ON	OFF	OFF	OFF	ON	ON
200	OFF	OFF	OFF	ON	OFF	OFF	ON	ON
201	ON	OFF	OFF	ON	OFF	OFF	ON	ON
202	OFF	ON	OFF	ON	OFF	OFF	ON	ON

203	ON	ON	OFF	ON	OFF	OFF	ON	ON
204	OFF	OFF	ON	ON	OFF	OFF	ON	ON
205	ON	OFF	ON	ON	OFF	OFF	ON	ON
206	OFF	ON	ON	ON	OFF	OFF	ON	ON
207	ON	ON	ON	ON	OFF	OFF	ON	ON
208	OFF	OFF	OFF	OFF	ON	OFF	ON	ON
209	ON	OFF	OFF	OFF	ON	OFF	ON	ON
210	OFF	ON	OFF	OFF	ON	OFF	ON	ON
211	ON	ON	OFF	OFF	ON	OFF	ON	ON
212	OFF	OFF	ON	OFF	ON	OFF	ON	ON
213	ON	OFF	ON	OFF	ON	OFF	ON	ON
214	OFF	ON	ON	OFF	ON	OFF	ON	ON
215	ON	ON	ON	OFF	ON	OFF	ON	ON
216	OFF	OFF	OFF	ON	ON	OFF	ON	ON
217	ON	OFF	OFF	ON	ON	OFF	ON	ON
218	OFF	ON	OFF	ON	ON	OFF	ON	ON
219	ON	ON	OFF	ON	ON	OFF	ON	ON
220	OFF	OFF	ON	ON	ON	OFF	ON	ON
221	ON	OFF	ON	ON	ON	OFF	ON	ON
222	OFF	ON	ON	ON	ON	OFF	ON	ON
223	ON	ON	ON	ON	ON	OFF	ON	ON
224	OFF	OFF	OFF	OFF	OFF	ON	ON	ON
225	ON	OFF	OFF	OFF	OFF	ON	ON	ON
226	OFF	ON	OFF	OFF	OFF	ON	ON	ON
227	ON	ON	OFF	OFF	OFF	ON	ON	ON
228	OFF	OFF	ON	OFF	OFF	ON	ON	ON
229	ON	OFF	ON	OFF	OFF	ON	ON	ON
230	OFF	ON	ON	OFF	OFF	ON	ON	ON
231	ON	ON	ON	OFF	OFF	ON	ON	ON
232	OFF	OFF	OFF	ON	OFF	ON	ON	ON
233	ON	OFF	OFF	ON	OFF	ON	ON	ON
234	OFF	ON	OFF	ON	OFF	ON	ON	ON
235	ON	ON	OFF	ON	OFF	ON	ON	ON
236	OFF	OFF	ON	ON	OFF	ON	ON	ON
237	ON	OFF	ON	ON	OFF	ON	ON	ON
238	OFF	ON	ON	ON	OFF	ON	ON	ON
239	ON	ON	ON	ON	OFF	ON	ON	ON
240	OFF	OFF	OFF	OFF	ON	ON	ON	ON
241	ON	OFF	OFF	OFF	ON	ON	ON	ON
242	OFF	ON	OFF	OFF	ON	ON	ON	ON
243	ON	ON	OFF	OFF	ON	ON	ON	ON
244	OFF	OFF	ON	OFF	ON	ON	ON	ON
245	ON	OFF	ON	OFF	ON	ON	ON	ON
246	OFF	ON	ON	OFF	ON	ON	ON	ON
247	ON	ON	ON	OFF	ON	ON	ON	ON
248	OFF	OFF	OFF	ON	ON	ON	ON	ON
249	ON	OFF	OFF	ON	ON	ON	ON	ON
250	OFF	ON	OFF	ON	ON	ON	ON	ON
251	ON	ON	OFF	ON	ON	ON	ON	ON
252	OFF	OFF	ON	ON	ON	ON	ON	ON
253	ON	OFF	ON	ON	ON	ON	ON	ON

254	OFF	ON	ON	ON	ON	ON	ON	ON
255	ON	ON	ON	ON	ON	ON	ON	ON

Table 3: SWITCH2 SETTING

📖 *Always use the “PELCO P” or “PELCO D” protocols.*

📖 *It is advisable to select PELCO-D protocol at 9600 bps baud rate to ensure the correct operation of the camera with the compatible products in the catalogue.*

📖 *Do not use address “0” with the “PELCO P” or “PELCO D” protocols.*

4. OPERATION GUIDE

4.1. OPERATION AT POWER UP

The camera employs the default settings the first time it is switched on. Changes to the settings will be permanently stored and will be made available the next time the camera is switched on. You can return to the default settings by means of the appropriate menu option at any time.

The camera will work as follows when it is switched on.

The camera will run a calibration procedure and a message showing the following information will appear on the video output OSD (On Screen Display): protocol, communication parameters, and camera address and software version.

Check that the data are suitable for operation. Otherwise, refer to the section in this document that shows how to install the camera correctly

PTOL: PELCO-D
COM: 2400, N, 8, 1
ADDR: 0

At the end of the calibration step, the camera will switch to stand-by as programmed (**POWER UP ACTION** in **MOTION > POWER UP**). The camera will continue working this way until any command is received from the controller. The camera during this phase can be pointed to a fixed point or pan across the field. Refer to the details described in the **POWER UP ACTION** menu section for more details.

4.2. HOW TO USE OUR CONTROL KEYBOARD

The camera is ready to receive commands from our control keyboard (see figure below) after connecting.

4.2.1. CONTROL KEYPAD PASSWORD AND ACCESS

The system will wait for the password to be entered after being switched on.
The control panel requires a 6-digit password.
The entered digits will be replaced by a "*" symbol on the screen for privacy.
Access to the menu is gained after entering all the digits correctly.
Refer to the corresponding manual for using the control panel.

📖 *The default user password is "000000".*
📖 *It is advisable to change the default password to prevent intrusions.*
📖 *Do not lose or forget the programmed password.*
📖 *Take note of the new password and keep it in a safe place.*

4.2.2. CONTROL KEYPAD COMMAND SYNTAX

Controls can use the joystick, single keys or key combinations. The key command syntax is shown below.

Key command syntax
The syntax used in this manual for controls using keys consists of various elements (words and three digit numbers). Each command is always in braces and each element is separated by commas. Each word or decimal digit used in the syntax is identified by a corresponding key on our control panel. Words can be enclosed in round brackets, square brackets or no brackets. Three digit decimals are never enclosed in brackets.

The following words only can be used: **PRESET**, **CALL**, **ESC**, **OPEN**, **CLOSE**, **NEAR**, **FAR**, **ZOOM OUT**, **ZOOM IN**, **CAM**, **MON**, **SCAN**, **ENTER**. The decimal digits are: **0**, **1**, **2**, **3**, **4**, **5**, **6**, **7**, **8**, and **9**.

Some application examples of controls are shown in detail below.

Using the joystick
A command can also be given simply by moving the joystick because this generates actions on the camera or OSD (On Screen Display) menu.

Using a single key
Pressing a single key can cause camera action. For example, the following command will zoom out of the frame. Underling indicates the key is in use.

ZOOM OUT

Key combinations
Pressing a key combination in rapid sequence extents the command set. For example, the following command (select camera address 1) is performed by pressing the following keys:

CAM + **1** + **ENTER**

4.2.3. CONTROL KEYPAD COMMAND TYPES

There are four command types:

- ☑ Select camera,
- ☑ Move camera (tilt and pan, zoom, adjust focus and IRIS opening, go to preset positions),
- ☑ Adjust camera operation mode using menus,
- ☑ Various quick controls operable from the control panel.

The method for accessing these controls will be shown in detail in the following paragraphs.

4.3. SELECT A CAMERA

The camera to be controlled must be selected first. For example, the following command selects camera 1:

CAM + **1** + **ENTER**

After this operation, the message **CAM 1** will appear on the control panel display.

4.4. CAMERA MOTIONS

After selecting a camera, it can be moved either directly using the control panel as described below:

- ☑ Panning (horizontal) and tilting (vertical).
- ☑ Zooming, focusing and IRIS opening.
- ☑ Preset positions programming and recalling.

These functions can be directly accessed using a single key or joystick or a simple key combination.

4.4.1. PAN AND TILT FUNCTIONS

The camera may be moved using our keyboard controller. Move the joystick vertically to tilt the camera and horizontally to pan it.

The maximum pan span is from 0º to 360º with continuous rotation. The maximum tilt span is from -5º (camera in vertical position) and 92º.

The panning and tilting speed can be modulated by operating the joystick appropriately.

Note that the maximum speed that can be obtained by operating the joystick is not always equal to that programmed in the working settings. This in fact depends on the value of the **PROPORTIONAL PAN** setting in the **MOTION** menu and the zoom. If the option is ON, the maximum rotation speed which can be obtained using the joystick is proportional to the magnification used to obtain the best frame.

Panning (horizontal)
Tip the joystick rightwards to turn the camera horizontally clockwise and tip it leftwards to turn it anticlockwise.

If no advanced options are set (e.g. range limits set enabled), the camera can be turned continuously without interruptions.

The pan span may be limited between two angles in **SETTING1** > **MOTION** > **MANUAL LIMIT**.

Tilting (vertical)
Tip the joystick upwards to turn the camera vertically upwards and tip it downwards to turn the camera downwards. The camera rotation is limited upwards by the horizontal plane or downwards by the vertical axis.

Performance will change considerably near the vertical axis according to whether the **AUTO FLIP** is on or not (default setting is on).

- ☑ With **AUTO FLIP** off, the camera will stop in perfectly vertical position and will stop turning when the joystick is tipped downwards.
- ☑ With **AUTO FLIP** on, the camera will proceed over the vertical axis when the joystick is tipped downwards. This is because, when the vertical axis is reached, the camera flips automatically by 180 degrees and resumes the initial trajectory.

The **AUTO FLIP** function can be used to follow a subject arriving in a certain direction passes under the camera and continues in a straight line. To do this, hold the joystick tipped downwards following the movement of the subject. Observe that in this case the joystick performance after the camera passes over the vertical axis opposite to the normal axis because tipping the joystick downwards will turn the camera upwards.

Normal operation of the joystick will be resumed as soon as the downward tip is interrupted (also only for an instant). At this point, to follow the subject in the same direction, you will need to tip the joystick upwards, as you would normally.

4.4.2. ZOOM FUNCTIONS

The camera frame may be adjusted by using the **ZOOM IN** and **ZOOM OUT** commands. Use **ZOOM IN** to zoom into the detail; use **ZOOM OUT** to zoom out.

Zoom can be set as per the zoom specifications of relative modules, combined between optical zoom and digital zoom. Refer to the specific section for programming the function.

4.4.3. FOCUS FUNCTIONS

The camera focus may be adjusted manually using the **NEAR** and **FAR** controls.

As the auto focus function is always on, a manual setting made using **NEAR** and **FAR** will be kept only until a pan, tilt or zoom command is used. In this case, auto focus will adjust focus automatically again.

Refer to the specific section for additional details on focusing and on the various options.

🕮 *The auto focus function cannot work correctly in the following cases:*

- ☑ *The object to be focused on it not in the middle of the image.*
- ☑ *There are far and near object in the frame.*
- ☑ *Bright light is shining on the subject.*
- ☑ *The subject is behind a glass pane covered in drops or dust.*
- ☑ *The subject is moving very quickly.*
- ☑ *The subject is not well lit.*
- ☑ *The subject is too big.*

4.4.4. IRIS OPENING FUNCTIONS

The IRIS opening may be controlled manually using the **OPEN** and **CLOSE** commands.

The manual setting made using **OPEN** and **CLOSE** will be kept only until a pan, tilt or zoom command is used if the automatic IRIS opening option is enabled (the default setting is on). In this case, the opening will be controlling automatically again.

Refer to the specific section for additional details on IRIS opening adjustment

4.4.5. PRESET POSITIONS PROGRAMMING AND RECALLING

The camera can store up to 256 panning, tilting and zooming configurations (called preset positions) which can be recalled at any time. The manual focusing and IRIS opening settings cannot be stored.

📖 *When storing presets, it is important to remember that some are reserved and cannot be either stored nor used for positioning the camera.*

- ☑ *Presets from 80 to 99 are reserved for management controls*
- ☑ *Presets from 100 to 103, 170 to 173 are reserved for Tracking and Pattern controls*

The following examples show how to program the free Presets and recall them.

Example: programming preset number 32

1) Position the camera in a certain pan, tilt and zoom configuration.
2) Enter the command **PRESET** + 32 + **ENTER**.

From this moment onwards, simply enter the command **CALL** + 32 + **ENTER** to move the camera to the preset position.

📖 *The saved value will be written over if the setting is reprogrammed.*

📖 *The Presets are saved in a permanent memory area of the camera where they are maintained also when power is disconnected. However, restoring default settings will delete all preset values.*

📖 *Press* **PRESET** + 83 + **ENTER** *to delete all the saved* **PRESET** *values.*

📖 *The Presets store the coordinates according to an angular reference system. Therefore, the reference system zero point may become misaligned with the camera mechanics after prolonged use of the tilting and panning functions. Minor inaccuracies in preset positions may occur. In this case, calibrate the angular coordinate system using the* **REBOOT SYSTEM** *command. This calibration is automatically run when the camera is switched on.*

4.5. FUNCTION PROGRAM MENU

Use the following control panel command to access the function programming menu.

PRESET + 95 + **ENTER**

```
            MAIN MENU

SYSTEM INFORMATION
ADDR SETTING
MOTION
PATTERNS
CAMERA
CRUISE SETTING
DISPLAY SETUP           ON
TRACKING SETTING
RESTORE FACTORY DEFUALT
REBOOT SYSTEM
EXIT
```

Screen 1: Main Menu

Simply move the joystick vertically to scroll the menu and point the cursor to the menu item to be selected: at the point, select **OPEN** to access the selected second level.

Simply press **BACK** and use **OPEN** to go back to the previous level menu.

To completely exit a menu on any level, simply select **EXIT** and use the **OPEN** command.

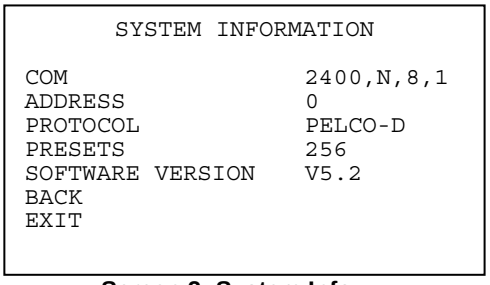
Option	Value	Explanation
SYSTEM INFORMATION		Product information menu (refer to **Section 4.5.1**).
ADDR SETTING		Program the camera address via menu (refer to **Section 4.5.2**).
MOTION		Program frame scan, power-up action (refer to **Section 4.5.3**).
PATTERNS		Program pattern scan (refer to **Section 4.5.3**).
CAMERA		Program camera parameters such as zoom speed, BLC, WB AGC etc (refer to **Section 4.5.5**).
CRUISE SETTING		Program cruise (refer to **Section 4.5.6**).

DISPLAY SETUP	**ON / OFF**	This is to turn on/off the display the P/T angle, zoom info of the camera at the bottom of the screen.
TRACKING SETTING		Program tracking function (refer to **Section 4.5.7**).
RESTORE FACTORY DEFAULT		Restore all the setting to the factory default.
REBOOT SYSTEM		This function restarts the device without clearing the settings performed by the user. The camera is repositioned.

Table 4

4.5.1. SYSTEM INFORMATION MENU

In the first level menu, select **SYSTEM INFORMATION** to display information concerning the protocol, the camera address, the presetting number, and the measured temperature.

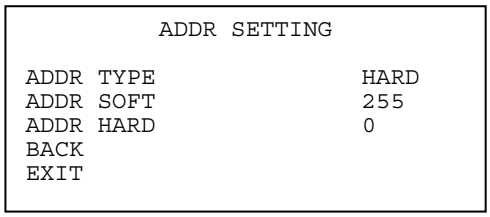


Screen 2: System Info

The information in this menu cannot be edited.

4.5.2. ADDRESS SETTING

The **ADDRESS SETTING** menu is used to enable the labels to be displayed for the various camera functions.



Screen 3: Display Menu

The soft address is the address programmed by built-in software. The hard address is the address programmed by the hardware SWITCH 2.

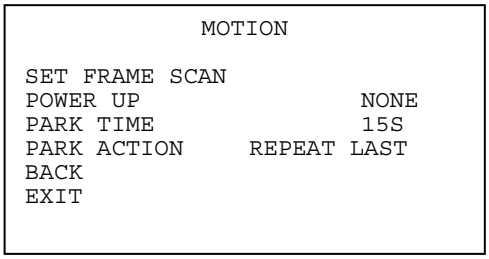
Option	Value	Explanation
ADDR TYPE	**SOFT, HARD**	This option is used to program the type of address in current application. Press the **OPEN** button and use the joystick to select the value. Press **OPEN** to confirm.
ADDR SOFT	**0~255**	The option is used to change the soft address.
ADDR HARD		This option shows the hard address number. It is the address of the SW2 (Switch Setting 2).

Table 5

The camera needs a reboot for the new address to take effect. When the hard address is different from that of last power up, the hard address will be applicable and the camera address will be hard type.

4.5.3. MOTION

The **MOTION** menu is used to program frame scan, park and power up action.



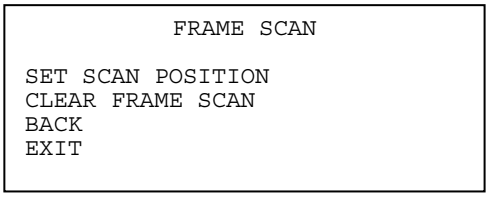
Screen 4: Motion

Option	Value	Explanation
SET FRAME SCAN		This submenu is to program the frame scan function
POWER UP ACTION	**NONE**	No action is performed at the end of power up.
	AUTO SCAN	The camera performs an auto scan at the end of power up: the camera performs a 360 horizontal scan operation.
	RANDOM SCAN	The camera performs a random scan at the end of power up: the camera performs a random 360° scan pausing for approximately 2" every 142°.
	FRAME SCAN	The camera performs a frame scan at the end of power up: the horizontal scan is performed in the SET SCAN limits.
	PRESET 1/ PRESET 8	The camera goes to preset 1 or 8 at the end of power up.
	PATTERN 1 ~ 4	The camera performs one of the 4 patterns at the end of power up.
	CRUISE	The camera performs a cruise at the end of power up: the camera runs a cycle consisting of up to 20 preset positions.
	TRACKING	The camera performs tracking action at the end of power up.
PARK TIME	**15 S ~ 12 H**	With this function, the camera will resume the function defined in "**PARK TIME ACTION**" by specifying a value (in 1s, 1m, 1h steps) following a stop or interruption of the performed function and after the programmed time.
PARK ACTION	**NONE**	No action is performed at the end of the park time.
	AUTO SCAN	The camera performs an auto scan at the end of the park time: the camera performs a 360 horizontal scan operation.
	RANDOM SCAN	The camera performs a random scan at the end of the park time: the camera performs a random 360 degree scan pausing for approximately 2" every 142°.
	FRAME SCAN	The camera performs a frame scan at the end of the park time: the horizontal scan is performed in the **SET SCAN** limits.
	PRESET 1/PRESET 8	The camera goes to preset 1 or preset 8 at the end of the park time.
	PATTERN 1 ~ 4	The camera performs one of the 4 patterns at the end of the park time (command sequence continuously performed).
	CRUISE	The camera performs a cruise (preset sequence) at the end of the park time: the camera runs a cycle of up to 20 preset positions.
	REPEAT LAST	The camera simply resumes the operation it was performing before being interrupted at the end of the park time.
	TRACKING	The camera performs a tracking operation at the end of the park time.

Table 6

SET FRAME SCAN submenu

This includes a number of settings related to the programming of **FRAME SCAN**.

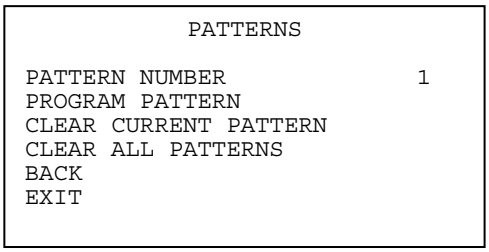


Screen 5: Frame Scan Sub-Menu

Option	Value	Explanation
SET SCAN POSITION		This submenu is to program the frame scan limit (see below)
CLEAR FRAME SCAN		This submenu is to clear the frame scan limit
FRAME SCAN SPEED	**1 ~ 14**	This submenu is to program the frame scan speed.

1) Press "►" on "**SET SCAN POSITION**".
2) Press **OPEN** to confirm.
3) Go to the required position with the joystick to set the left scanning limit.
4) Press **OPEN** to confirm.
5) Go to the required position with the joystick to set the right scanning limit.
6) Press **OPEN** to confirm, Press **CLOSE** to cancel the operation.
7) Point the cursor "►" to "**SET SCAN STOPS**" and press **OPEN** to delete the programmed positions.

4.5.4. PATTERNS SUBMENU



Screen 6: Patterns Sub-Menu

A pattern is a sequence of movements and functions which may be stored and repeated manually or automatically.

Option	Value	Explanation
PATTERN NUMBER	**1 ~ 4**	This option is used to select a pattern.
PROGRAM PATTERN		This submenu is used to program a pattern (see below)
CLEAR CURRENT PATTERN		This submenu is used to delete the current pattern (see below)
CLEAR ALL PATTERN		This submenu is used to delete all the patterns saved

Table 7

PROGRAM PATTERN submenu
This includes all the operations needed to program a pattern.
1) Use the joystick to point the cursor to the "**PATTERN NUMBER**" option.
2) Select the required pattern and press **OPEN**.
3) Position the cursor under "**PROGRAM PATTERN**" option and press the **OPEN** button.

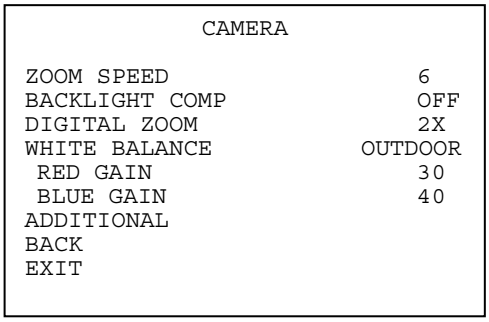
The number of actions available (including zoom operations) for programming the Pattern is shown in percentage form on the screen while they are each being programmed. 100 operations are available for each pattern.

CLEAR PATTERN submenu
This includes the operations for deleting the selected pattern.

4.5.5. CAMERA

The first level of this menu contains the following options grouped as shown in the following table.

To edit the value, simply select the required menu item using the joystick with vertical movements and the **OPEN** button. Then edit as required. Select **BACK/EXIT** to close the item.

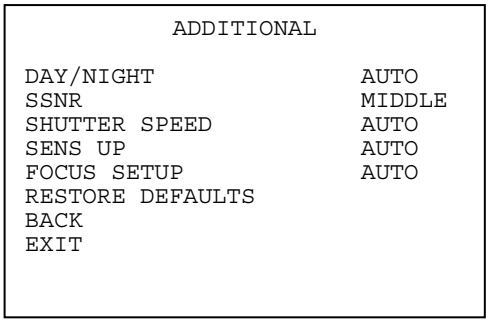


Screen 7: Camera

Option	Value	Explanation
ZOOM SPEED	1 ~ 8	Program the speed of the zoom
BACK LIGHT COMP	OFF/LOW/ MIDDLE/ HIGH	Switch back light compensation OFF/LOW/MIDDLE/HIGH. The BACK LIGHT COMPENSATION function is useful for improving visibility when the background light is very bright.
DIGITAL ZOOM	1X ~ 10X	Set the limit of digital zoom.
WHITE BALANCE	AWC	Auto white balance control: range from 2300~10000K. For most applications.
	OUTDOOR	This function automatically balances the whites for outdoor use.
	INDOOR	This function automatically balances the whites for indoor use.
	MANUAL	In this mode, white balancing may be performed by manually selecting the amount of red (R GAIN) and blue (B GAIN).
RED GAIN	0 ~ 64	Adjust the red components using these values. It is editable only at manual white balance.
BLUE GAIN	0 ~ 64	Adjust the blue components using these values. It is editable only at manual white balance.
ADDITIONAL		Other settings submenu (see below).

Table 8

ADDITIONAL submenu



Screen 8: Additional Submenu

Option	Value	Explanation
DAY/NIGHT	AUTO	The camera will decide itself color or b/w mode
	COLOR	Color mode in low light conditions
	B/W	B/W mode in low light conditions
SSNR	OFF	Samsung Super Noise Reduction is off
	LOW, MIDDLE, HIGH	Different level of SSNR, from low to high
SHUTTER SPEED	AUTO	The camera will decide the shutter speed itself.
	2X, 4X, 6X, 8X	Different speed of shutter speed.
SENS UP	AUTO	The camera will decide the LUX level of the module.

	2X, 4X, 6X, 8X, 10X, 12X, 14X, 16X, 24X, 32X, 64X, 128X	different level of lux.
FOCUS SETUP	**AUTO**	The camera will automatically focus
	TRIGGER	Focus upon trigger
	MANUAL	The fucos needs to be done manually.
RESTORE DEFAULTS		Restore the setting factory default

Table 9

4.5.6. CRUISE SETTING

```
            CRUISE

DWELL TIME<SECS>            7
PRESET LIST                 1
    1 ON            0 OFF
1 2 3 4 5 6 7 8 9 0    PRESET
0 1 1 0 0 1 0 1 1 1   <1-10>
BACK
EXIT
```

Screen 9: Cruise

The **CRUISE** function is used to make the camera run a cycle consisting of up to 20 preset positions.
This menu item is used to enable each of the preset positions used in the cruise cycle.

For the cruise cycle to be effective, the preset positions must be actually stored.

Option	Value	Explanation
DWELL TIME <SECS>	**5 ~ 250**	Duration (in seconds) of the dwelling time on each presetting.
PRESET LIST	**1 ~ 3**	Value 1 selects the first group of Presets from 1 to 10, value 2 selects the second group from 11 to 20, value 3 the third group from 21 to 30. The following 10 digits (1/10) are used to switch the corresponding preset in the corresponding ten (1-10, 11-20, 21-30) either on or off (1=**ON**; 0=**OFF**).

Table 10

4.5.7. TRACKING SETTING

```
        TRACKING SETTING

LOST ACT            STOP TRACK
AUTO ZOOM              ON
WAIT TIME<S>               40
BACK
EXIT
```

Screen 10: Tracking Setting Sub-Menu

The auto tracking function is used to automatically track moving objects by detecting grayscale variations in the frame.

Option	Value	Explanation
LOST ACT	**TO HOME & TRACKING**	This option is used to establish the action to be performed if the camera loses the tracked object: the **TO HOME AND TRACKING** option repositions to preset 1.
	KEEP TRACKING	The **KEEP TRACKING** option keeps the camera in the position reached and the tracking function is kept on waiting for an object to be intercepted again.
	STOP TRACKING	The **STOP TRACKING** option leaves the camera in the position reached and deactivates the tracking function.
AUTO ZOOM	**OFF, 1 ~ 10**	This option determines the maximum zoom value that the camera / may use for tracking the object.
WAIT TIME<S>	**5, 10, 15, 20, 25, 30, 35, 40 SECONDS**	This option determines the time which must elapse before performing an action after losing a motion in frame. The action (**LOST ACT**) may consist in: - The camera goes to preset 1 and tracking is enabled from this position (**TN HOME AND TRACKING**). - The camera is left in the position reached and the tracking function is kept on waiting for an object to be intercepted again (**KEEP TRACKING**). The camera is left in the position reached and deactivates the tracking function (**STOP TRACKING**).

Table 11

Advice for Correct Auto Tracking Use

General warnings

- ☑ The tracking function should mainly be used in indoor environments.
- ☑ Provide the best lighting possible in the detection zone: in poor lighting conditions, the inevitable presence of noise on the image makes grayscale variations extremely critical. In poor lighting conditions, the camera may easily loose the tracked object.
- ☑ If day/night is used, remember that the camera must be programmed to operate in B/W only because the Slow Shutter will make tracking unreliable in color mode
- ☑ Avoid background objects in the frame which could trick the motion detector, such as for example Venetian blinds, gates, doors with grid and objects with very marked, contrasting contours. A chequerboard background is certainly the worst condition for satisfactory operation.
- ☑ Do not use the auto tracking function if the object to be tracked and/or monitored moves too fast.

Recommended control parameters

AUTO ZOOM: it is advisable to use the lowest possible zoom values. Excessive detail makes tracking difficult (the movement must be fastener and consequently or the risk of loosing the object is much higher).

WAIT TIME: particularly, in the case of poor lighting conditions or frames with interference, it is preferable to set the lowest possible time to prevent the camera from constantly tracking unexpected objects (e.g. “video noise” in the frame).

4.6. SPECIAL CONTROL PANEL COMMANDS

The camera can be programmed and operated using various quick control panel commands.

Control panel command	Function
PRESET + 95 + **ENTER**	Access main menu
PRESET + **XXX** + **ENTER**	Store preset position (Preset) xxx.
CALL + **XXX** + **ENTER**	Recall preset position (Preset) xxx.
CALL + 80 + **ENTER**	Start the tracking function
CALL + 81 + **ENTER**	Stop all functions
CALL + 82 + **ENTER**	Start the cruise function
CALL + 83 + **ENTER**	Delete all Presets
CALL + 84 + **ENTER**	Start pattern 1
CALL + 85 + **ENTER**	Start pattern 2
CALL + 86 + **ENTER**	Start pattern 3
CALL + 87 + **ENTER**	Start pattern 4
CALL + 88 + **ENTER**	Start park action function
CALL + 89 + **ENTER**	Stop park action function
CALL + 92 + **ENTER**	Start cruise with tracking function activated
CALL + 97 + **ENTER**	Start frame scan function
CALL + 98 + **ENTER**	Start auto scan function
CALL + 99 + **ENTER**	Stop random scan function

Table 12

🕮 *When storing Presets, it is important to remember that some are reserved and cannot be either stored or used for positioning the camera.*

- ☑ *Presets from 80 to 99 are reserved for management controls*
- ☑ *Presets from 100 to 103, 170 to 173 are reserved for Tracking and Pattern controls*

5. TROUBLE SHOOTING

Problem	Possible Reason	Solution
Power on normally but no video signal	Wrong wire connections	Check and reconnect wires
	Wrong or bad power source	Change power source
	Fuse broken.	Change fuse
	Power cable is disconnected	Reconnect power wiring
Pan/Tilt not initializing when power on	Address, protocol, and baud rate is not correctly set	Check and set the parameters again.
	RS485 cable is not correctly connected	Check and reconnect Rs485 cable
Video is not stable	Video cable is wrong	Check and reconnect video
	Power source is wrong	Change the power source
Control center is not stable	RS485 wiring error	Check and reconnect the RS485

Table 13